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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,731	08/17/2001	Martin Roth	261/077Cont.	6232

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EXAMINER
SELLERS, ROBERT E

ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 02/27/2003

2

Please find below and/or attached an Office communication concerning this application or proceeding.

A2-9

Office Action Summary	Application No.	Applicant(s)	
	09/932,731	ROTH ET AL.	
	Examiner	Art Unit	
	Robert Sellers	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) *1-4 and 7* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5,6 and 8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-8* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-4 and 7, drawn to an epoxy acrylate of formula (III) and its process of preparation, classified in class 528, subclass 112.

II. Claims 5, 6 and 8, drawn to a carboxyl group-containing epoxy acrylate of formula (IV) and its process of preparation, classified in class 525, subclass 531.

The inventions are distinct, each from the other because:

Inventions I and II are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as an adhesive and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants.

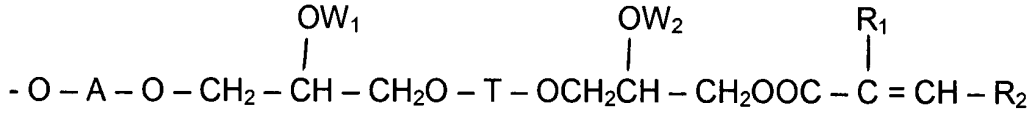
Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Kristin H. Neuman on December 11, 2002, a provisional election was made with traverse to prosecute the invention of Group II, claims 5, 6 and 8. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-4 and 7 are withdrawn from further consideration under 37 CFR 1.142(b) as being drawn to a non-elected invention.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 5, 6 and 8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the carboxyl group-containing epoxy acrylate of formula (IV) wherein when "n" is 0, then X is hydrogen and Y is the group of the formula



does not reasonably provide enablement for "n" being unconditionally 0. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The carboxyl group-containing epoxy acrylate of formula (IV) is derived from the reaction of the epoxy acrylate of formula (III) with a cyclic polycarboxylic acid anhydride as required in claim 6. The specification on page 6, lines 4-5 contains the caveat that when "n in formula (III) is 0, then Q is –H and L is the group of formula" which corresponds to the second depicted L group on page 4, line 7. The description does not enable the repeating unit of formula (IV) being absent as quantified by "n" including the value of zero. When "n" is zero, the compound X – Y is denoted which embraces the compound H – O – A – O – H (X is H and Y is – O – A – O – W_1 wherein W_1 is hydrogen) such as bisphenol A. Such a compound does not conform to the claimed carboxyl group-containing epoxy acrylate of formula (IV) upon reaction with the anhydride since no unsaturation is present as required by the definition of "carboxyl group-containing epoxy acrylate."

More favorable consideration would be given to the insertion of the phrase "When n is 0, then X is hydrogen and Y is the group of the formula

$$\text{- O – A – O – CH}_2\text{ – CH(OW}_1\text{) – CH}_2\text{O – T – OCH}_2\text{CH(OW}_2\text{) – CH}_2\text{OOC – C(R}_1\text{) = CH – R}_2\text{"}$$

into page 12, after line 6 as a new paragraph, and claim 5, after the term "claim 5 (page 34, line 2). The insertion would affirmatively denote the presence unsaturated moieties. Equivalent language has been defined in independent claims 12 and 32 of parent application no. 08/268,094 with respect to formula (III).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The "method of preparing photoresist formulations comprising the use of a carboxyl-containing epoxy acrylate" does not contain any process steps employed to obtain the photoresist formulation. It is unclear how the carboxyl-containing epoxy acrylate is used to prepare the photoresist formulation.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5, 6 and 8 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese Patent No. 5-32746.

The Japanese patent (page 24, Synthesis 6) shows a process for the preparation of a carboxyl group-containing epoxy acrylate within the confines of claimed formula (IV) wherein the epoxy resin (a) of Synthesis 1 (pages 20-21) derived from the post-glycidation of a bisphenol-advanced diglycidyl ether of bisphenol (page 7, Formula (6)) with epichlorohydrin (page 21, lines 10-14) is further reacted with acrylic acid and then tetrahydrophthalic anhydride.

Synthesis 6 of the Japanese patent utilizes the same reactants in the same reaction sequence as described on page 8, the last line to page 9, line 3; page 9, lines 16-19 and page 12, lines 7-10 of the specification which yields the carboxyl group-containing epoxy acrylate of claimed formula (IV). Although the claimed structure is not depicted, the burden of proof is shifted to disprove that the prior art structure resulting from the disclosed reaction procedure possesses a structure within the parameters of claimed formula (IV) (*In re Fitzgerald*, 619 USPQ 594, CCPA 1980 and MPEP §§ 2112-2112.02).

The specification on page 13, the last paragraph, lines 3-5 states: "They can therefore be used and applied as acrylate components in photoresist formulations for the production of solder resists . . . " The Japanese patent teaches the utility of the carboxyl group-containing epoxy acrylate as a solder resist in the paragraph bridging pages 19-20 and pages 27-28, Examples 1-5 as set forth in claim 8.

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ROBERT E.L. SELLERS
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